Current Meter Gauging

Operations Manual table of contents

Glogger Navigation:

On:	Turns Glogger on. Logger remains on till the *Off* key or an auto internal power save feature turns it off
Off:	Turns Glogger off
***0* to *9*, *stop* and *minus*:**	Used for numeric data entry and menu selection
Finish:	Complete a data entry screen Complete a reading Select a menu item
Measure/Back:	Backspace to correct a data entry error Initiate a velocity measurement
***Next* and *Prev*:**	Select menu items before the *Finish* key Navigate through each of the screens and through menu lists

Office Prep for Field

To download preferences (flow meter and prop ratings) connect Glogger to PC and open glog.exe software. Then:

On Glogger:

1. Press *On* button, note that the start up screen provides details on Glogger battery charge, memory space, and the number of stored gaugings
2. Within 10 seconds press the *Finish* button to move past the auto shutoff to main menu
3. Select 3 – *System Menu*
4. Select 3 – *Download Setup*
5. If get message *Data Download Is Disabled* then the Glogger still contains gauging data – check this has been uploaded by last user – if so, you can delete the old data as follows:
6. Enter *3.14159* and press *Finish*
7. *Setup and Ratings Download* should now appear on Glogger screen

In glog.exe:

1. Select *Download Preferences and Settings to logger*
2. Open the correct preference dnl file (with relevant current meter ratings) through the pop up window
3. Click on *Download Data to Logger*

Current Meter Gauging

Field Use:

1. Assemble current meter, select and mark out gauging section [refer to gauging procedures in Quality System Documents]
2. Connect Glogger to current meter

Set Glogger for Gauging:

Press On button, then Finish button to move to main menu

Select 1 [Gaugings Menu]

Select 2 New Gauging

Enter:

- Site No
- Date
- Start Time
- Staff Gauge reading
- Select correct Rods setting
  - 1 = Bottom Set for wading rod
  - 2 = Cable for slackline, cableway or bridge gauging
  - 3 = Top Set for top set wading rods
- Default Corrn/Angle - used to correct for angle of section if required [refer to gauging procedures in Quality System Documents]

  Note user can set Glogger to use a correction fraction (Corrn) or an actual angle (Angle) when downloading preferences on the dnl file menu
- Select correct Distance setting (e.g. for increase or decrease)
- Select correct Start point (e.g. left or right bank)
- Leave Flow Warning set at 10%
- Press Finish, and Finish again if you are ready to gauge

Start Gauging:

Set Correct current Meter no. (as per the preferences and settings)

To change move cursor to Meter enter 0 then Finish – then scroll through the list (Use Prev and Measure/Back) to find correct meter and prop setup – then Finish again

Current Meter Gauging

For Each Vertical Enter:

Vertical Type

1 = EWE is Effective Waters Edge

2 = Mid is a Mid Stream vertical (note that the Glogger will select 2 by default)

3 = Snd is a Sounding – for recording depth and position only but no flow

4 = Ah is an Ad Hoc vertical not used in the calculation – typically only used for taking a surface velocity reading

Posn - Position across the section

Dept - Depth of vertical – measured from gauging rod or from cableway/slackline bomb. Enter depth then Finish and next menu will allow you to select from:

- 0.2
- 0.6
- 0.8

This will give you the correct depth at which to set the meter for taking a velocity reading. For a standard wade gauging velocity readings are typically taken at 0.6 of the vertical depth [for high stage gaugings or deep rivers refer to the gauging procedures in the Quality System Documents]

Once depth has been set press Measure to take the velocity reading

NOTE: At the start of the first vertical in a gauging run the calibration check [refer to the Initial Calibration and Faulty Counts section next page]

As Required:

- Angle/Corrn:

  used to correct for angle of flow if required [refer to gauging procedures in Quality System Documents]

  Note user can set Glogger to use a correction fraction (Corrn) or an actual angle (Angle) when downloading preferences on the dnl file menu

- Dry Line Angle Correction:

  For Cableway, slackline, and bridge gaugings enter dry line height and angle corrections if required [refer to gauging procedures in the Quality System Documents] To access this menu move cursor to Posn enter 0 then press Prev, then Prev again

- Immediate Measure:

Current Meter Gauging

To take an immediate measure select 2 Options from main menu, then 2 Immediate Measure and select the correct Rating Note that once started the velocity measurement will continue indefinitely until a key is pressed

- Altering the Count Time:

  To alter the velocity reading count time prior to gauging go to the main menu, then select 3 System Menu, 4 Manual Setup, 2 Set Accuracy, 4 Count Time

Trouble Shooting

Speed Restrictions

At higher speeds the Glogger will progressively suppress display data on the screen during a measurement as follows:

0-5 contact closures/second – operation as normal
5-10 contact closures/second – suppression of part of display
10-30 contact closures/second – suppression of all of display
30-80 contact closures/second – suppression of RMS measurement

Note that even with full suppression of the display all the operation of the Glogger continues, and that at the end of any reading the velocity and count time can be viewed by pressing *1* and *2* respectively

Initial Calibration and Faulty Counts

To calibrate, and to correct for faulty counts which can occur during a reading such as multiple counts, or missing counts:

- When measuring go to the calibration menu – press *Prev*. The display should now move between high and low numbers as the meter turns (if it does not check the external connections)
- Press *Finish* to move to the filter selection screen.
- For multiple counts increase the filter value
- For missed counts decrease the filter value

Note a value of 0 is no filtering, and that for high-speed reed based counters 0 should be the default setting

Current Meter Gauging

Office Download and Processing

- Fill out gauging register and assign gauge No (prefix of 40)
- Transfer any relevant log sheet (chit) inspection data to gauging card: (i.e. stage, time, temperature etc

Download Gauging

Connect Glogger to PC and open glog.exe software (on local machine only)

On Glogger:

- Press *On* button, then *Finish* button
- Select 3 – *System Menu*
- Select 2 – *Xfer to Computer*

In Glog.exe (Local Machine):

- Select *Upload Gaugings from Logger*
- Select *View/Save 1st*
- Select correct directory on pop up menu (e.g. Downloads Directory)
- Will get *All Data Sent* message on Glogger
- Select *1 Don't Delete Logger Data*

Process Gauging:

In Glog.exe (Terminal Server):

- Open relevant gauging from download directory
- Select Edit (***E***) gauging:
- Check raw gauging data – make any corrections if required
- Tab through and enter fields
- Select *OK* once you have completed
  - Print Gauging Report
  - Save window as text file (Hilltop.txt)
  - Save edited gauging (.glr file) into relevant folder, ensuring it is accurately labeled to enable location at a later date.

Manager:

- Check the site stage telemetry data and enter relevant stage and punch times onto gauging card for duration of gauging

Current Meter Gauging

- Determine gauging time and stage height through averaging [refer to the gauging procedures in the Quality System Documents]
- Determine change in stage – NOTE: the rate of change determines the correct method to use [refer to the gauging procedures in the Quality System Documents]

Import Gaugings to Hilltop

Manager – gaugings.hts

Select Data-Import- Glogger

Open Face Card

Tab through and enter all relevant fields on each page:

- Enter derived time
- Enter 999 as a default Rating No
- Check slope and intercept are correct for meter and prop used
- On the Details page:
  (Use derived stage)
  - Ensure the Serial No. field contains the current meter serial no.
  - The prop serial number should be entered in the Comment field
  - Use tideda format (yyymmdd) for Calibration Date e.g. 27/11/05 should be entered as 1051127
- The Output page should be left as it is
- Select Save when all pages are complete

Select Calculate

- Check the data
- Enter the calculated data into the computed data section on the gauging card
- Print the computed data
- Save the data
- NOTE (to review calculation go to - site/hydraulic gauging/gauging date)

Complete the Gauging Register

- Put paper work together:

Current Meter Gauging

- glogger printout folded and stapled to card
- calculation inside
- highlight the gauging No. & initial

On Glogger

Now that the gauging has been processed the Glogger memory can be cleared for its next use (refer to the office prep section)